17382.

MARINE REVIEW.

VOL. III. CLEVELAND, OHIO, THURSDAY, JANUARY 1, 1891. No. 1.

Dockage at Upper Lake Ports.

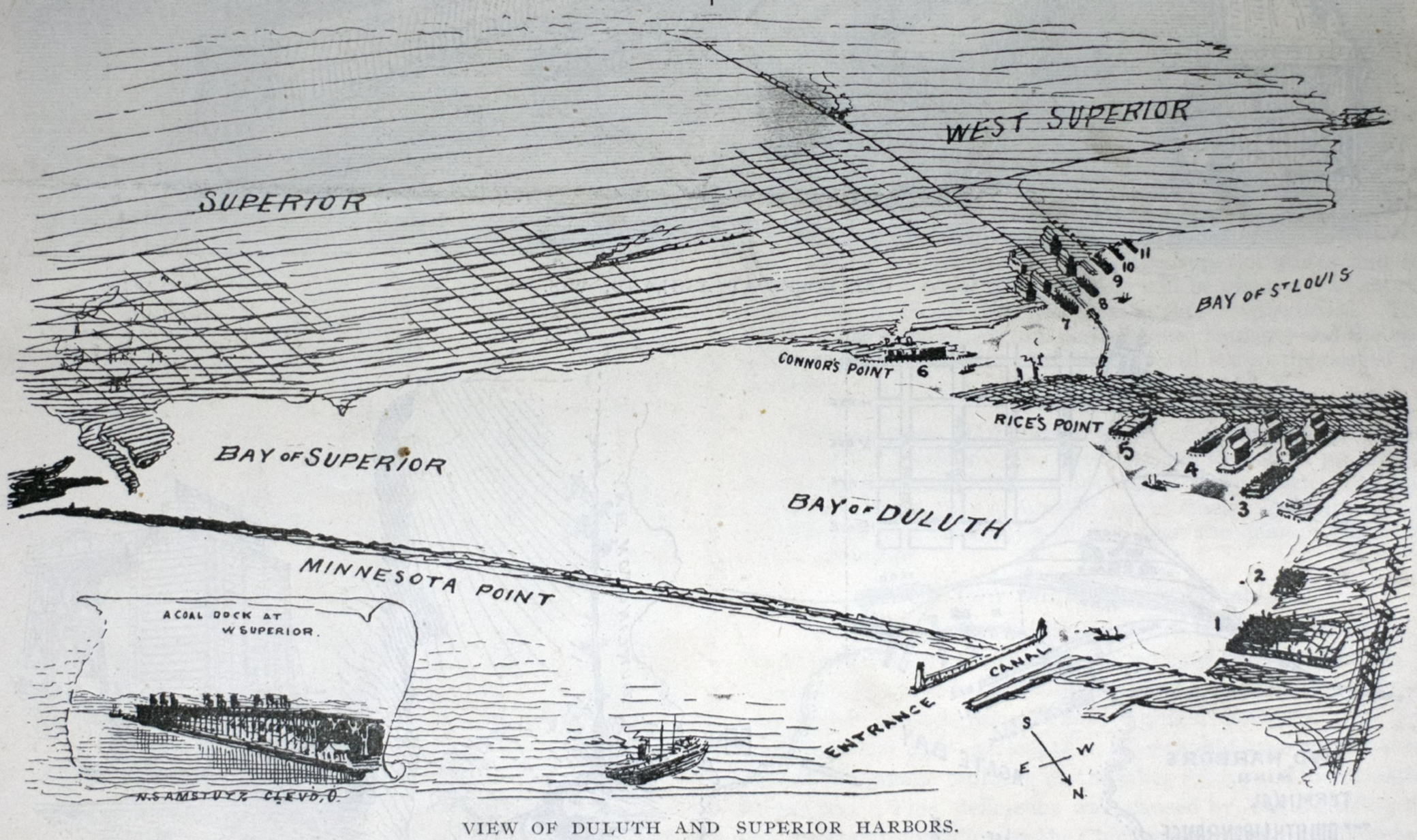
The Iron Trade Review furnishes figures showing the ore and coal handling facilities of upper lake ports. The dockage of leading ore shipping ports is as as follows:

	Frontage devoted to loading.	Average width.	Storage capacity.	Daily handling capacity.	Number of ore pockets.	Average height of docks.	Greatest height.
	Feet.	Feet.	Tons.	Tons.		Feet.	ft.
Two Harbors	3,550	47	34,000	10,000	303	50	50
Ashland	8,588	43	78,000	25,000	702	43.7	46
Marquette	9,788	40.75	73,485	21,100	774	41.75	47
Escanaba	7,800	38	97,790	30,000	726	44	48
Total	29,276	.....	263,275	86,100	2,605	.....	...

Footed up, the above figures show a frontage of 43,751 feet, or between eight and nine miles. With an average width for the coal docks of 275 feet, and for the ore docks of 40 feet, the total amount of space occupied by these docks is 5,559,915 square feet. The total storage capacity is 2,533,275 tons, and the total daily handling capacity is 123,700 tons.

Similar statistics for Lake Erie ports, collected last summer, showed a total frontage of ore docks of 45,549 feet, with a total square feet area of 10,148,150, a daily handling capacity of 90,970 tons, and a storage capacity of 6,485,000 tons.

In connection with this summary, drawings of the leading ore shipping ports are presented on this and the following page, for which we are indebted to the Iron Trade Review. They show an immense line of docks and harbor improvements in the construction of which millions of dollars have been expended.



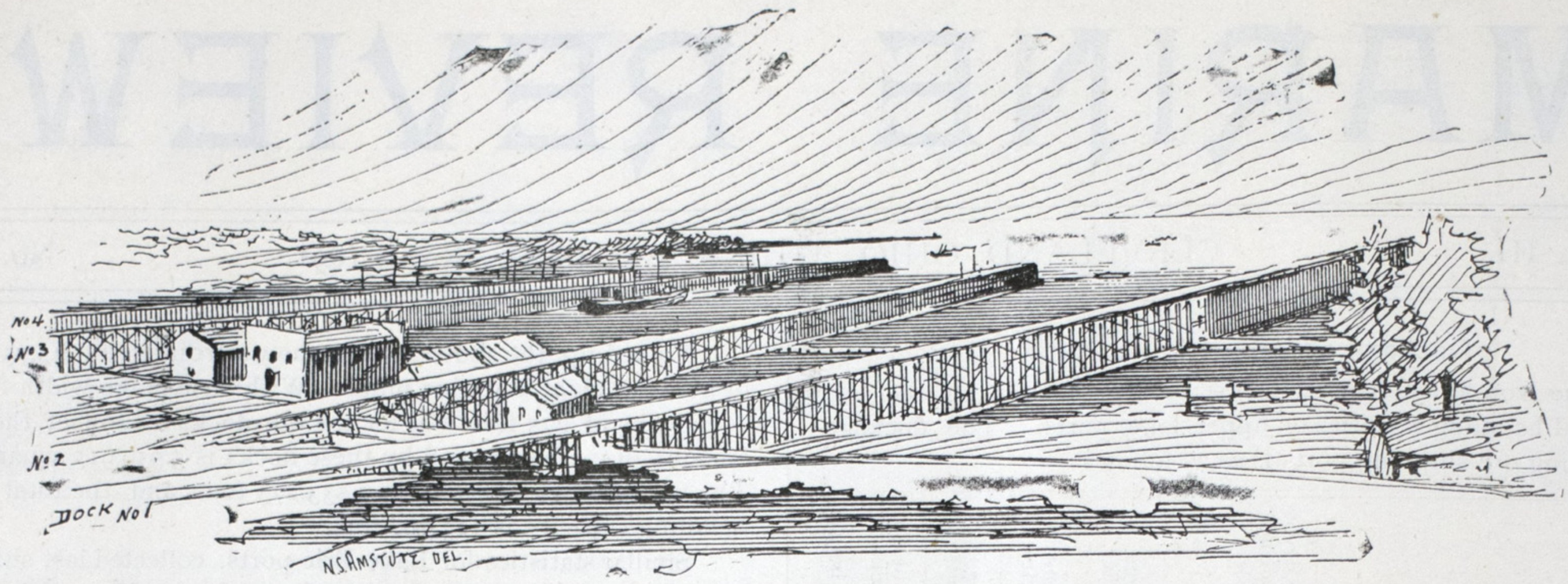
VIEW OF DULUTH AND SUPERIOR HARBORS.

A like summary of the coal dockage at leading receiving ports is as follows:

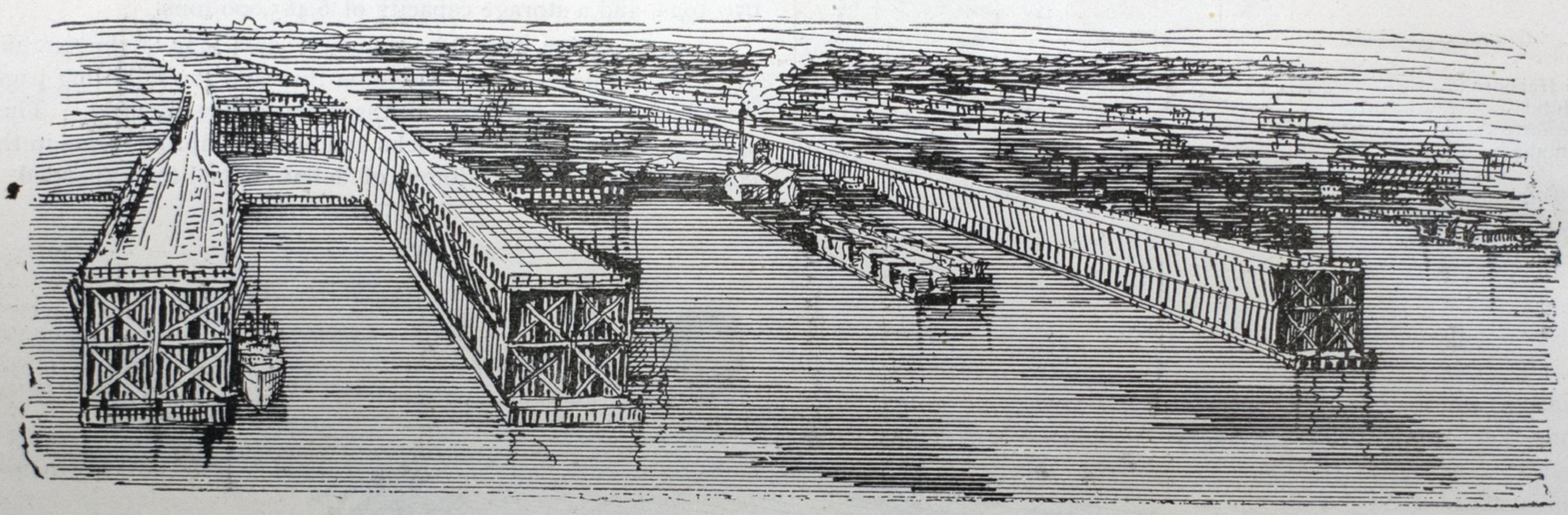
	Frontage.	Average width.	Storage capacity	Daily handling capacity.	Square feet of dock.	Numberderricks
	Feet.	Feet.	Tons.	Tons.		
Two Harbors	425	125	50,000	800	53,125	3
Duluth & West Superior	12,290	314.2	1,595,000	34,400	3,957,500	111
Ashland	1,310	275	125,000	2,400	360,250	9
Total	14,025	714.2	2,270,000	37,600	4,370,875	123

A Wonderful Ship Yard Record.

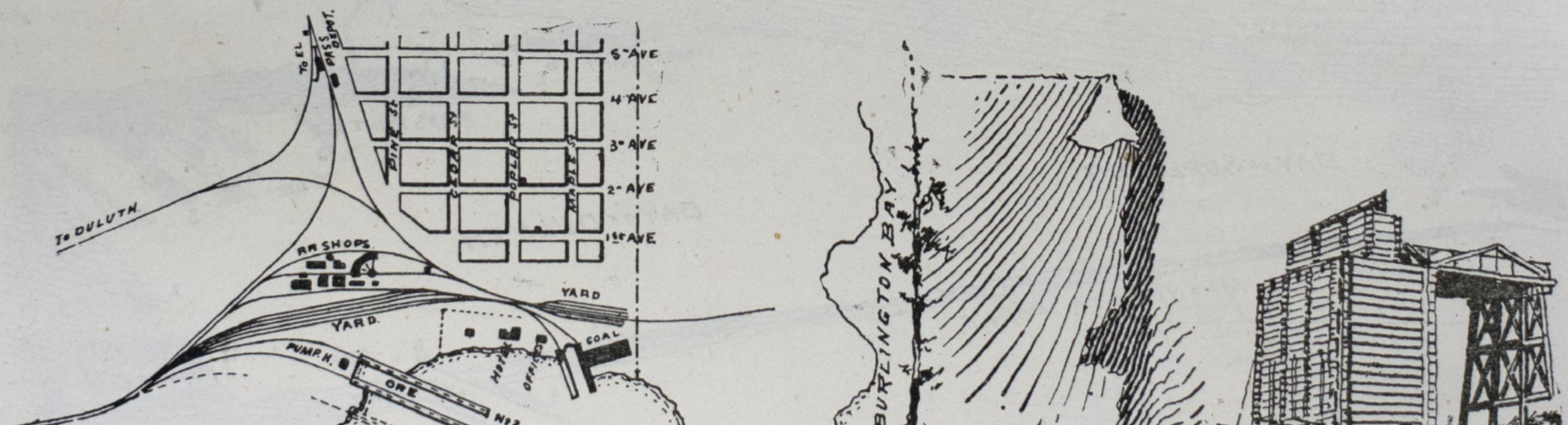
The Globe Iron Works Company launched another big steel steamship, Tuesday, the eleventh in 1890 and the twelfth within the year between December 1889 and December 1890. When it is considered that every one of these boats will carry 2,400 to 2,650 gross tons, and that their combined carrying capacity is about 31,000 gross tons, with an aggregate value of at least $2,500,000, this record is certainly unequalled by any other ship yard in the country. The steamship launched, Tuesday, is the Briton, the fourth of a fleet of six boats building for the Menominee Transit Company. She is in every respect a duplicate of the boats already launched and fully described. They are 296½ feet keel, 312½ feet over all, 40 feet beam and 24½ feet moulded depth, with triple expansion engines and all other improvements contained in the big steel craft of the lakes.



SKETCH OF MARQUETTE HARBOR.



ORE DOCKS AT ASHLAND, WIS.



MAP AND VIEW OF TWO HARBORS, MINN.

Record of Speed and Big Cargoes.

[*Masters or owners are invited to report improvement on this list.*]

Iron ore: Maryland, Inter-Ocean Transportation Company, of Milwaukee, 3,322 gross or 3,737 net tons from Escanaba; Pontiac, Cleveland Iron Mining Company, of Cleveland, 2,933 gross or 3,285 net tons from Escanaba; Brazil, 2,932 gross tons or 3,284 net tons from Escanaba; Corsica, Mutual Transportation Company, of Cleveland, 2,921 gross or 3,271 net tons from Escanaba.

Grain: Steel boats—America, Drake syndicate, 111,507 bushels of Corn, Buffalo to Chicago; Emily P. Weed, Hollister Transportation Company, 111,000 bushels of corn, Chicago to Buffalo. Wooden boats—Neshoto, R. R. Rhodes, of Cleveland, 102,000 bushels of corn from Chicago. From Lake Superior—Western Reserve 96,258 bushel of wheat from Duluth.

Speed: Owego, Union line, of Buffalo, Buffalo to Chicago, 889 miles, 54 hours and 16 minutes, 16.4 miles an hour; Saranac, Lehigh Valley Line, of Buffalo, Buffalo to Lime-Kilns, 240 miles, 15 hours and 10 minutes, 16 miles an hour.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St.

Stocks.	Par Value.	Bid.	Asked.
Cleveland Iron Mining Company	$ 25 00	$ 17 00	$ 18 00
Champion Iron Company	25 00	90 00	100 00
Chandler Iron Company	25 00	39 00	40 00
Chicago and Minnesota Ore Company	100 00	.....	110 00
Iron Cliffs Iron Company	50 00	120 00	125 00
Jackson Iron Company	25 00	90 00	100 00
Lake Superior Iron Company	25 00	68 75	69 00
Minnesota Iron Company	100 00	70 00	80 00
Pittsburg Lake Angeline Iron Co	25 00	145 00	.....
Republic Iron Company	25 00	28 00	29 00
Michigamme	25 00	8 50	10 00

Mr. Carnegie and other leading furnace men are said to have given out their intention to buy no ore until late in the spring. They point to stocks of ore on Lake Erie docks valued at $11,000,000, at a low estimate, as a reason for this conclusion and say that ore producers must come down in their prices. This is all true enough under present conditions but it does not seem as though Cleveland ore dealers will bother the furnace men in the matter of ore sales for some time to come. The feeling among them would indicate that they will spend less money for traveling expenses than is usual in January. Mr. Carnegie's determination to delay purchases was anticipated. He purchased too early last fall. Single deals involving $500,000 or more were made with him as early as Thanksgiving time and it is reasonable to suppose that the outcome of the market on which those purchases were made would prompt him to delay operations this winter In the meantime the ore dealers recognize the importance of awaiting the outcome of the present depression in the iron industry as it can hardly become worse. There have been some rumors of a combination among them to restrict production but this does not seem reasonable to anyone acquainted with the diversity of interests in the business. If the output is to be cut down the condition of the market will regulate the restriction. The sales agents have held two or three meetings and have submitted statements regarding stocks, etc., that would tend to indicate the course to be pursued but it is not probable that anything further has been done. In the list of quotations on mining stocks, the Minnsota Iron Company's shares and others have been noticeably marked down. There is little or no sale for stocks and prices are very low.

In an interview in Detroit a few days ago, C. H. Brotherton, of Port Arthur, a leading Canadian capitalist, known recently in connection with the development of the Sudbury nickel mining district, said that it is only a matter of two or three years, at the outside, when iron ore will be shipped from the Ontario district near Port Arthur. "Together with several others I have 2,000 acres of land located for iron" says he, "and we are this winter surveying 10,000 acres more. The Canadian government requires us to make our own surveys, and pay $2 an acre besides, but it gives an absolute title. Mr. Van Hise, state geologist of Wisconsin, Mr. Pumpelly, of Providence, R. I., and Mr. Smyth, a Michigan geologist, have also just purchased 10,000 acres, all for iron. In silver mining we are constantly making a better showing and new discoveries are frequent. The Beaver mine, owned by Gen. Alger, shipped $20,000 of bullion from its mill last month, and the Badger, owned by Milwaukee parties, shipped $30,000 worth. These are the only two mines which have mills. Just at present I am more particularly interested in nickel mining at Sudbury, at the junction of the Duluth, South Shore and Atlantic and the Canadian Pacific Railroads. Everything is booming at Sudbury, and the town has a population of 4,000 all gained within a very short time. The nickel mines are proving very profitable. Two mills are running night and day on the products of the various mines and more are soon to be established. I took up 1,000 acres just west of Sudbury a short time ago, and have found very high grade ore upon it."

It is generally announced that the Escanaba, Iron Mountain and Western Railway (new Schlesinger road,) has been conditionally sold to the Chicago and Northwestern, although Mr. Schlesinger denies the report. In building the line Mr. Schlesinger had the backing and support of business men in that part of Northern Michigan which the road traverses, who were anxious to have a competing line by which they could secure better rates. The Northwestern has long enjoyed a monopoly of the business and the report that it has secured control of the Escanaba has caused considerable ill feeling. The "Soo" line made strong efforts last spring to induce Mr. Schlesinger to let it complete the line, but without success. The Escanaba road is now completed for a distance of fifty-four miles between Escanaba and Iron Mountain. Only a small part of it is operated, and its main business comes from Schlesinger's iron mines. The intention is to extend the line to Florence and Crystal Falls to connect it with the Schlesinger mines at those places.

Duluth newspapers are engaged in booming the Mesabi, range, situated near the Vermillion. A great deal of exploring is going on. It is claimed that no prospecting shaft has been sunk between the quartzite and slate formations without encountering a good quality of ore, and that the general impression that the formation is of a thin blanket form has been proven erroneous by late developments.

The big electrical companies are endeavoring to introduce labor saving machinery into the Lake Superior mines, and it is probable that some of the apparatus will be given a trial shortly, as the companies offer to make tests at their own expense. They claim to have machinery for underground haulage, and the operations of hoists, pumps and drills that will lessen the cost of production.

The managers of the Iron River mine are among the producers of low grade ore who have decided to restrict production, in view of the unsatisfactory outlook in the market. The mine has about 54,000 tons of unsold ore in stock. As this is about one-third of the total sales of last year, the plan of restriction seems advisable.

The Two Minnesota Steamships.

The list of vessels building on the lakes, as published in the MARINE REVIEW recently, excited considerable attention, as it showed 77,950 tons of floating property, valued at $5,337,000 was under construction. Those figures, however, were just 5,300 tons and $400,000 less than they should have been, making the entire tonnage building on the lakes 83,250 and the valuation $5,737,000. This deficiency was caused by not including the two steamships building by the Chicago Ship Building Company, the carrying tonnage and valuation of which amounts to 5,300 tons and $400,000. They are the first steel vessels built as far west as Chicago, and are the first built by this company, although the company is composed of gentlemen who have been connected for some time with the buiness of building steel ships. Practically the two ships are duplicates of the four Minnesota ships built by the Globe Iron Works Company, but they will have some features added that will easily distinguish them from their sister ships. They will be ready for business at the opening of navigation. The yard is equipped with a Brown cantilever ship yard crane, with which the triple expansion engines were recently hoisted and placed into position.

More Big Steamers than Seaports and Rivers Combined.

When an advance summary of the report of W. W. Bates, commissioner of navigation was given out some time ago, lake interests were surprised to find that the Atlantic coast builders had built more tonnage than the lake builders during the year ending June 30, 1890, although building on the lakes in the two previous years had exceeded that of the Atlantic coast and western rivers combined. The reason for this, however, is the building of a great many small sail crafts on the Atlantic coast, while the steam tonnage built on the lakes is greater, by about 15,000 tons, than the combined work of all other shipyards in the country. Here are the figures:

WHERE BUILT.	Number.	Gross tonnage.	Net tonnage.
Northern lakes	116	86,023.11	67,144.73
Atlantic and Gulf coasts	155	54,240.51	35,369.17
Pacific coast	57	6,896.15	5,246.78
Western rivers	82	11.885.91	10,813.98
Total	410	150,045.68	118,601.66

Another important feature in this regard is the fact that in classification according to size, of the vessels composing the steam tonnage of the United States, the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership in all other sections of the country.

	Number.	Tonnage.
Northern lakes	272	439,786.85
Atlantic and Gulf coasts	157	237,105.68
Pacific coast	28	43,000.82
Western rivers	22	28,588.24
Total	479	748,481.59

These figures, showing that only the finest and largest class of modern steam vessels are being added to the lake fleet, are especially surprising, as they indicate that a continuance of the present increase in tonnage will in a few years place the lakes ahead of the Atlantic coast in ownership. In comparison with the total tonnage owned on the Atlantic and Pacific coasts and on the rivers, the aggregate of lake tonnage makes the following showing:

	Number.	Tonnage.
Northern lakes	3,510	1,063,063.90
Atlantic and Gulf coasts	17,332	2,638,595.50
Pacific coast	1,402	428,391.55
Western rivers	1,223	294,446.49
Total	23,467	4,424,497.44

Of this representation of the entire merchant marine of the country 2,565,409 tons is sail and 1,859,088 tons is steam.

Vessels Built at the Different Lake Ports.

The work of the different shipbuilding ports on the lakes during the year ending June 30, 1890 is shown in the following table prepared from the report of the commissioner of navigation:

Customs District.	Number.	Tonnage.
Cuyahoga (Cleveland)	24	39,095.20
Huron (Bay City)	28	22,807.37
Detroit	18	21,430.69
Milwaukee	19	7,606.01
Buffalo Creek	*24	5,168.21
Duluth	4	4,975.28
Champlain	*19	1,874.88
Miami (Toledo)	3	1,284.05
Niagara	*10	1,666.23
Superior (Marquette)	1	920.41
Sandusky	1	421.77
Michigan (Grand Haven)	*18	594.62
Chicago	*7	288.39
Genesee	2	187.92
Oswegatchie	4	134.24
Oswego	1	99.30
Erie	3	37.86
Cape Vincent	1	34.09
Total	191	108,525.87

*Principally canal boats or small tugs.

Of these new boats 116 were steam, tonnage 86,023.11; 36 sail; tonnage 12,803.47; 12 barges, tonnage 6,739.27 and 27 canal boats, tonnage 2,960.02.

In the building of iron vessels only one other city in the country, Philadelphia, turned out more tonnage than Cleveland, the figures being 29,008.39 tons for Philadelphia, and 28,629.72 tons for Cleveland. Of 23 steel boats floated on the lakes during the year Cleveland built 13, of 28,629.72 tons; Duluth 4, of 4,975.28 tons; Buffalo 4, of 3,389.97 tons; Bay City 1, of 1,073.96 tons and Detroit 1, of 532.91 tons.

Where the Lake Fleet is Owned.

The following table, prepared from data contained in the report of W. W. Bates, commissioner of navigation, shows how the 3,510 vessels comprising the lake fleet is distributed among twenty customs districts on the lakes. In the arrangement of the table, preference is given to tonnage, and not to the number of boats, as it will be seen that while Cleveland, Buffalo, Detroit and other ports own the best class of tonnage and are in the lead, the number of boats at these places is far short of other districts where crafts are of the inferior class. Chicago has dropped to sixth place in the list, capitalists in that city having invested very little money in big vessels of late years.

Customs district in which documented:	Number.	Tonnage.
Cuyahoga (Cleveland)	250	193,240.67
Buffalo Creek	297	153, 27.62
Detroit	302	137,359.57
Huron (Port Huron)	443	136,026.35
Milwaukee	371	92,854.55
Chicago	334	71,964,81
Champlain	*556	53,091.16
Superior (Marquette)	129	45,256.65
Sandusky	86	37,404.86
Michigan (Grand Haven)	304	31,389.70
Erie	45	30,521.23
Oswegatchie	50	21,465.55
Oswego	111	17,570 30
Miami (Toledo)	63	16,484.33
Niagara	19	8,081.18
Vermont	37	5,869.72
Cape Vincent	54	4,115.21
Genesee	*23	3,686,52
Duluth	31	2,808.77
Dunkirk	5	645.15
Totals	3510	1,063,063.90

*Mostly canal boats.

Of these vessels 1,527, having an aggregate tonnage of 652,922.95 are steam, and 1,983 are sail having an aggregate tonnage of 410,140.95 The steam tonnage represents 61 per cent. of the fleet, this proportion being far greater than in the entire merchant marine of the country where the steam tonnage represents but 42 per cent. of the total. Of the lake fleet, ninety-four vessels, (88 steam), are of iron and steel and their tonnage is 129,326.75. Buffalo owns 32 of these metal vessels, Cleveland 13, Detroit 9, Erie 7 and Chicago 4, the balance being distributed between the less important ports.

The classification of the lake fleet is as follows:

Class.	Number.	Tons.
Steam vessels	1,527	652,922.25
Sailing vessels	1,272	328,655.96
Canal boats	657	67,574.90
Barges	54	13,910.09
Total	3,510	1,063,063.90

Steel Barge Company's Plans.

Two hundred dollars is the figure at which it is said the stock of the American Steel Barge Company is held. The capital is $2,000,000 and it was said that at the recent annual meeting in New York a proposition would be made to increase this to $5,000,000, but nothing has been heard of any action being taken in that regard. The steamboat known as No. 12, now on the stocks at Superior, will be named C. W. Wetmore, for the secretary of the company. Contracts have been let for metal for the building of barges up to No. 117. McDougall goes to the Pacific coast next week and he hints that the object of the trip is to prepare for the building of boats there. It is said that the company now has in view the construction of passenger boats. The plan is to have the cabins carried on turrets similar to those on the steamboats.

Feeling in Detroit Regarding Freights.

Special Correspondence to the MARINE REVIEW.

DETROIT, MICH., Jan. 1.—The lake freight situation at this writing presents a very decided contrast to what it did one year ago. So far as Detroit shipping is concerned, I have not, as yet, learned o a single charter having been made. The figures published in last week's REVIEW, giving the quantity of iron ore on dock at Lake Erie ports, are fairly stunning in their magnitude, and naturally intensify the gloomy forebodings which so generally prevail among owners of lake tonnage. Some of our Detroit ship owners, however, take a philosophical view of the prospective, consoling themselves with the belief that things cannot turn out any worse than the present outlook indicates, and that any decided improvement in the financial condition of the great money centers will be quickly felt in all lines of business, and in none more so than the iron steel industies.

The suit of the owners of the barge Keweenaw against the propeller City of Cleveland, came to an end a day or two since, in the United States district court before Judge Brown, who decided in favor of the latter vessel. Mr. Harvey Goulder was, it is said, altogether too smart for some of the plaintiff's witnesses.

Capt. James Reid's many friends sympathize with him in his losses and financial troubles of the season now closing. His latest undertaking was the successful feat of towing the huge new car ferry, for the Canadian Pacific Railway Company, from Bay City to this port. The job was performed with his big tug Sea Gull. She pulled the ferry boat through twenty-five miles of heavy solid ice in Lake St. Clair. On her arrival here the tug was taken in charge by the United States marshal, on a libel procured by Thomas Murphy in the sum of $12,221.93, the claim being for use of tools, chains and wrecking appliances used by Capt. Reid in raising the Armour. It is said that Capt. Reid intends to contest the claim.

The damage by fire to the little steambarge John E. Potts foots up quite heavily. The survey just completed figures the loss at $16,353. The boat's machinery is badly injured.

The United States marshal sold the barge William Raynor at Detroit for $215. The schooner Grace Murray sold to E. W. Hudson, of this city, for $750.

Capt. J. M. Jones is a veteran in marine circles here. In appreciation of his kind and genial disposition, the vessel captains of Detroit presented him one day last week with a chair worth $45.

The New Channels at Duluth.

Special Correspondence to the MARINE REVIEW.

DULUTH, MINN., Jan. 1.—The new channels being cleared in this vicinity will be a great aid to navigation next season. Vessels will no longer be compelled to follow the old roundabout course between Duluth and West Superior. Several deep laden vessels went through the new canal just before the close of navigation last fall, and all will be free to do so in the spring. During the ensueing summer the new canal between Rice's point and Grassey point, along the north shore of St. Louis bay, will be rendered passable for vessels of the largest size at present engaged in lake traffic. The practical effect resulting from the construction of this channel is not only to give access to the manufacturing establishments at West Duluth but to extend the available dockage limits a distance of nearly five miles from the harbor of Duluth proper. In the prosecution of the various works of harbor improvement at Duluth the government has appropriated $652,399.20, and the completion of the channels in Superior bay and St. Louis bay on the Duluth side, as proposed, will require the appropriation of $224,526 more.

William Sooy Smith, the celebrated tunnel and bridge engineer, recently held a conference with the Duluth council, at which he explained that a tunnel under the ship canal was entirely practicable, with a grade to the approaches of 10 per cent, and a length of from 1,100 to 1,200 feet. The council ordered Mr. Smith to go ahead and prepare his plans for the tunnel opposite the foot of St. Croix avenue. Mr. Smith would not estimate the cost, but in all probability it will be about $1,000,000 for a tunnel to accommodate railway and street railway tracks and a roadway and sidewalks. It would require about two years to construct it. Mr. Smith stated that such a tunnel was the sole solution of the Duluth railway problem, and that had Chicago such a solution for her railway difficulties it would be worth untold millions to her.

The New Milwaukee Ships.

Special Correspondence to the MARINE REVIEW.

MILWAUKEE, WIS., Jan. 1.—The Pueblo will be the next vessel launched here. She is planked and a full force of men are pushing the work rapidly. She will be similar to the Denver, which was also built by the Milwaukee Shipbuilding Co. In talking with her managing owner some very hopeful phases of next season's freights were presented. The probability that shippers will be slow to make contracts, combined with a late opening and other side features will, he thinks, drive away the clouds that float across the owners' sky.

Strange as it may seem, a shipbuilder, no less a personage than Mr. Wolf, has put himself on record as saying that the McDougall "pigs" have turned out to be better bred than he ever imagined they would. The vessel building at the Wolf yard will be called the Schlesinger, and Ferdinand will be the front name. She will be the second wooden vessel on the lakes that will have a water bottom. The Pabst is the other one, and both are insured for one-quarter per cent. less by reason thereof.

The following was told me about a little tift between two partners in the building business. One partner decided that a new boat should have some features of improvement above decks and, looking over the boat one day, he mentioned them. The other thought a few minutes and then said that the last boat had given satisfaction and he saw no reason for the change. His lack of progressiveness riled the white whiskered Marmion and he shook with ire as he said: "Yes, you want everything the same as it was a century ago. According to your ideas you ought to be back in Scotland tending goats."

Fifty of the sixty-six steamers laid up at Milwaukee will be overhauled or repaired at the Sheriffs works. They have turned out 100 wheels during the past season.

The International Marine Conference.

WHO REPRESENTED THE MERCHANT MARINE? In scanning the reports and proceedings of the International Marine Conference we find, that all in all there were sixty-one delegates from twenty-eight governments. Their positions in life were as follows: Twenty-six officers of the navy among whom eight were admirals; twenty-five diplomatists, etc.; six captains from the merchant marine and four lawyers. The merchant marine of the whole world for which the rules were made, comprising a fleet of 32,298 vessels, had in all six representatives, all others being outsiders; for we can not include the twenty-six officers of the navy, whose avocation is entirely different from that of the merchant marine. Being the representatives of annihilation, not of preservation; of destruction, not of construction; they cannot be considered to be representatives of the merchant marine. Yes, there were all in all six sailors from the merchant marine—two from England, two from the United States, one from Norway, and one from the Netherlands. A big show indeed! What the people belonging to the diplomatic corps and kindred occupations knew of preventing collisions at sea is hard to tell, but it is a fact that twenty-five of them were present, constituting nearly half the number of delegates. England, Germany, France and the United States furnished the four lawyers, but it does not appear from the records that the French lawyer ever took any active part in the proceedings. Thus, the other three lawyers had things all to themselves, and were the acknowledged leaders in the conference, no question being settled without their taking the most active part in it. Of the six sailors not much is reported, for whenever they attempted to open their mouth there was somebody with a silvery tongue who made them shut up. Such was the composition of that illustrious body framing the international rules of the road for the merchant marine.

HOW THE RULES WERE DEALT WITH.—Article 27 reads: "In obeying and constructing the rules due regard shall be had to all dangers of navigation and collision and to any special circumstances which may render a departure from the above rules necessary in order to avoid immediate danger." After a prolonged discussion Dr. Sieveking (Germany) made the final declaration: "The law says to the sailors we give you certain rules. We have given you these certain rules, but of course there may arise circumstances where these rules are not applicable, as unforeseen dangers of navigation or other circumstances, and in case of such circumstances you are to depart from the rule. You must not stick to the rule. Your principal object is always to avoid immediate danger and, of course, that means to avoid immediate danger of collisions. That is quite clear. If we say to avoid immediate danger of collision it is superfluous." Here we have an official acknowledgement of the imperfection of the International rules by one of the principal framers and expounders; and it is needless to say, that under the American rules no circumstances can arise where they are not applicable, and that shows their perfection. In view of which it would be folly to exchange the American rules for the International rules.

DISTRIBUTION OF THE VOTING POWER.—Every state, small or large, owning a single boat or thousands of vessels, was entitled to one vote. Thus Costa Rica, with three vessels and Great Britain with 12,000 vessels were on the same footing. And why not? The lives of the men who framed the rules were not at stake; it was only the life of poor Jack tar having no voice in the matter. If the voting power had been divided according to the number of vessels, as so many individuals in each state, and one vote been accorded to every thousand vessels the following list would give the number of votes for each state: Great Britain and colonies, 12; United States, 3; Norway, 3; Germany, 2; Italy, 2; France, Spain, Sweden, Russia, Netherlands, Greece and Denmark, each 1 vote. The rest, with Austria as leader, would have been entitled to three votes. In all thirty-two votes.

JOHN MAURICE.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, ... } PROPRIETORS.
F. M. BARTON, ... }

Published every Thursday at No. 510 Perry-Payne Building, Cleveland, O.

Lake Tonnage from Lloyd's American and Canadian Insurance Registers for 1890:

	Number of boats.	Net tonage.	Value.
American	2,053	846,489	$58,113,300
Canadian	647	132,971	3,989,130
Totals	2,700	979,460	$62,102,430

According to the report of William W. Bates, United States commissioner of navigation, 46 per cent of the new tonnage of the country was built on the lakes during 1889. This is a percentage greater than the work of the Atlantic coast and western rivers combined, and almost equal to the whole work on the Atlantic and Pacific coast. In 1890 the tonnage built on the lakes is but very little less than that built on the Atlanti and Gulf coast. Tonnage built on the lakes during the past five years was as follows:

	No. of boats.	Net Tonnage.
1886	85	20,400.54
1887	152	56,488.32
1888	222	101,102.87
1889	225	107,080.30
1890	218	108,515.00
Total	902	393,597.03

Annual tonnage entries and clearances of the great seaports of the world, for 1889: New York, 11,051,236 tons; all seaports in the United States, 26,983,315 tons; Liverpool, 14,175,200 tons; London, 19,245,417 tons.

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1889, 234 days of navigation, 9,579; tonnage, 7,221,935. Number of boats through Suez canal during 1889, full year, 3,425; tonnage, 6,783,187.

Tonnage passing through Detroit river during 234 days of navigation in 1889, amounted to **36,203,606** *tons. Ten million tons more than the entries and clearances of all the seaports in the United States, and three million tons more than the combined foreign and coastwise shipping of Liverpool and London.*

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HARDLY a week passes of late without some important and surprising announcement regarding the wonderful growth of lake commerce. Navigation interests all over the country were astonished a few weeks ago when it was shown, through figures taken from the report of the supervising inspector of steamboats, that the steam tonnage of the lakes was greater than that of the Atlantic and Gulf coasts. The report of the commissioner of navigation presents figures even more important. A table of comparisons, made up from that document and printed elsewhere in this journal, shows that the number of vessels of 1,000 to 2,500 tons owned on the lakes is far greater than the total of this class of vessels in all other parts of the country. More steam tonnage was built on the lakes last year than the combined product of all other sbipyards in the country, and Cleveland leads all cities of the country as a shipbuilding center. In the matter of steel shipbuilding last year Philadelphia's launches reached 29,000 tons as against 28,000 tons from Cleveland yards. Another year will in probability bring down this small margin of 1,000 tons and the lakes will also lead in the important metal hull industry.

THE report of Gen. O. M. Poe, U. S. A., on the traffic of the St. Mary's Falls canal during 1890, is being copied in leading trade publications throughout the country, and the comment in connection with it is generally favorable to the importance of lake commerce. The Manufacturers' Record, of Baltimore, uses the report in detail to urge the necessity of pushing improvements on the Mississippi river, and in doing so attempts to belittle the lake traffic by saying that the freights of the Sault trade consists mainly of a few staples, as against a great variety of commodities that might be handled on the Mississippi. This is certainly of poor taste when the report in question shows the greatest canal traffic in the world. The Mississippi will need many millions in government appropriations before its shipping can be said to exceed that of all seaports of this country, a condition true of the lakes at the present time.

Starboard the Helm, Not the Wheel.

Capt. T. A. Ellery writes the MARINE REVIEW from Marysville, Mich., to inquire why the Point Abino, N. Mills, Tom Scott, J. E. Mills and other steam crafts of the smaller class were not included in the list recently prepared by Capt. George P. McKay, showing the manner in which lake vessels steer. The boats named steer with crossed chains, or steamboat style, and Capt. Ellery entertains some fears that they were purposely excluded from the list, as the showing was overwhelmingly in favor of straight chains, or ship fashion. The boats in question were not included in the list simply because it was the understanding when the work was begun that only boats of 500 tons and over should be considered. This was done in order to exclude harbor tugs and other small craft that are not engaged in the general commerce of the lakes. Capt. Ellery has a word to say about the principle involved that is, however, worthy of attention. He says:

"I was in charge of sailing vessels twenty-seven years and steamers about ten years, and I hope that we will not be compelled to steer a steamer ship fashion. When I tell a man to starboard his wheel it is simple enough for him to roll it to starboard. It does not look right to me to tell a man to starboard and have him roll the wheel to port. I believe in working a wheel as you do a tiller and then everything will work the one way."

Capt. Ellery's argument is not new. It has appeared many times in the discussion over this matter, and the advocates of straight chains meet it by saying that the term, or order, "starboard" means, in all cases, starboard your helm and not starboard your wheel.

To most vessel masters who have seen service in both sail and steam vessels reference to wheel, helm or rudder, in connection with the orders "starboard" or "port" is considered out of place. "If I see a vessel approaching me on the starboard," said Capt. William S. Mack in talking of this matter a few days ago, "there is nothing more natural than to say 'starboard' and the same is true of the order 'port.' The order is the same in all cases, and why should there be any difference in the execution of it?"

Hon. Edward Atkinson's review of the world's iron and steel trade, which was recently published in the Manufacturer's Record, of Baltimore, has attracted such wide attention, that it has been issued in a pamphlet of fifty pages by the Record.

Around the Lakes.

The work of converting the old steamer Saginaw into a lumber barge has been completed at Toledo.

There is more rye in store in Chicago elevators than corn, the stocks being 154,524 bushels corn and 198,011 bushels rye.

M. E. B. A. No. 1, of Buffalo. will accept thanks for an invitation to its eighth annual ball, to be held in Concert hall, Music hall building on the 12th inst.

At last accounts the steamers Neshoto, Mecosta and Johnson were still waiting to discharge their coal cargoes at the Lehigh and Franklin company's docks, Milwaukee.

Work on Marquette's life saving station is progressing favorably. The buildings will be ready within a few weeks, although the contractors had until spring to complete them had the time been required.

Capt. W. D. Andrews, of Toronto, the brave and well-known life-saver, has been presented by Dr. Sivewright and Arthur Richardson, of Chatham, Ont., with an ebony cane having a massive head of solid silver, suitably inscribed.

Albert W. Goodrich, president of the Goodrich Transportation Company, attained his majority a few days ago, and according to the provisions of his father's will the young man came into possession of his patrimony, consisting of $1,011,075.89.

The jury in the case of Capt. Landgraf, on trial in Milwaukee under the charge of killing a sailor, failed to agree and Capt. Landgraf gave bail in the sum of $5,000 for appearance at the next term of court. The jury stood nine for acquittal and three for conviction of manslaughter, one of the three holding for only a third degree verdict.

Senator Stockbridge, of Michigan, has been in active correspondence with the war department and has been urging prompt action towards carrying the bill for the purchase of the Portage lake canals into effect. While the department has been unable to give the senator the date on which the canals will pass from the corporate to government control, he has been assured that the matter will be closed up very soon.

Milwaukee and Chicago shipping interests will move to have the government replace the revenue cutter Andy Johnson by a new boat. The Andy Johnson was built in 1865 and has cruised to all Lake Michigan and Lake Superior points, and has at times performed service on Lakes Huron, St. Clair and Erie. The number of miles sailed in making these trips was something over 130,000. The Johnson has in her day saved vessel property on the lakes valued at $1,500,000. While she has been in commission her officers have inspected some 15,000 vessels, and her crew has saved a number of lives. She is now of that class and build of vessels that has gone out of use.

Cleveland Notes.

Advices from Ashtabula are to the effect that the ore handlers there who quit work a few days ago have returned at the old rate of wages for loading into cars, seven cents a ton.

The Lake Superior Iron Company's new boats will be sailed by Capt. Mooney, last season in the La Salle, and Capt. Green of the Joliet. Capt. Henry Stone leaves the Bradley fleet to succeed Capt. Mooney in the La Salle.

The schooner A. Boody, A. G. Morey, John T. Mott, and Montcalm have been chartered for next season to carry ore from Escanaba to Tonawanda at $1.10 a ton. The boats are of light draft and can carry full loads, but the charter is not looked upon favorably here on account of delays experienced in this trade in past seasons.

The harbor tug men outstripped all efforts of former years at their ball, Wednesday evening. They had the mayor and other distinguished local people with them, and the annual gathering was a success in every respect. Dances were regulated by the familiar stroke of the engine room bell, red and green side lights adorned the stage and the bunting from every tug in port was brought into play around the galleries.

Dr. Johnson's jet propulsion steamer Evolution made a trial trip in New York bay a few days ago. The engine worked well and at one time the log showed that she was running at the rate of seventeen knots an hour. The Evolution carries a 40 ton pump. This pumps in an eight inch stream and forces out ¾-inch of water that, when ejected from a pipe in the stern post about three feet below the surface of the water, forces the boat ahead.

Successful Use of a Caisson Dock.

The Scientific American contains an interesting article on the use of a caisson dock for repairs to the steamship La Champagne, injured in a collision off Sandy Hook. Why the steamship was not drydocked is not stated, but the caisson or box used was water-tight on the bottom and three sides, while one side was provided with leaf doors, consisting of planks arranged one above another and pivoted at the end attached to the box by steel pins passing through them. The planks on either side of the open end resemble a double door, but in order to fit a cross section of a ship the top planks are much shorter than the bottom, the ends of which meet It would seem that these planks should be cut or lengthened according to the beam of the ship, but such is not the case, the angle of the doors suiting the opening to any vessel of the larger class. The caisson used was 42 feet long, 32 feet wide and 22 feet deep. It was floated into position off the bow and was drawn into position by means of cables. The ends of planks at the opening were padded,so that no leakage would occur. Altogether the arrangement was not unlike that used by the superintendent of the Detroit Dry Dock Company in docking the stern of the St. Ignace, excepting, of course, he accommodated the operation to a dry instead of a floating dock. When in position the doors were swung in against the ship and the caisson was pumped out. The displacement or buoyancy of the caisson is controlled by means of the double sides, which may be pumped full independent of the inside of the dock. A new stem piece was put on and other repairs were made under the water line by means of this caisson.

The Lake Sailor's Christmas.

Most of the lake sailors manage to close up the season's business and to reach home by Christmas. Such spent the merry holiday pretty much as do other sensible people. Some, however, have no stationary homes, so to speak. These make themselves at home wherever they may fetch up. Like a rolling stone they gather no moss, but they are all the brighter for the friction. When one of the chaps was asked last night how he had spent Christmas, he hardly knew which way he was steering. He was almost aground. Said he: "Old fellow, I can't spin a long yarn about this Christmas trip. You see, I've been scudding around until I've lost my bearings and shifted my cargo. I've hauled aboard a good many pints, and I feel like coming to for the night. I've struck Madeira, Burgundy, and a whole string of ports, and now I'm ready to take a turn below. I don't care which way the wind blows. Just say I've had a heaving time, and let her go at that."—Buffalo Courier.

Sound Argument.

Considerable controversy is going on in the marine press of the great lakes in regard to the difference of opinion in steering. Eighty per cent. of the steam tonnage on the lakes is managed by men whose vessels steer "ship fashion," and they are of the opinion that the twenty per cent. of steam vessels that steer the reverse of "ship fashion" should change so that all vessels steer alike. As the change would involve no expense, and entail only a little more care on the part of the helmsman until he became familiar with a reversal of the order of steering, there is no question but that the change should be made; in fact, a uniform method of steering—that is, "port" and "starboard" in connection with the wheel—should prevail on all vessels that navigate the rivers, lakes, bays and sounds of the United States and the oceans, the public highways for navigation all over the world. Let the opposition to a uniform mode of steering, who are a small minority, consider the question of steering "ship fashion" from an unselfish standpoint, and they will all agree that "starboard" and "port" should mean the same under all circumstances, whether on board a man-of-war, a river steamboat, tug or sail vessel.—Marine Journal.

The Proposed Light-ships.

It would now seem as though the proposed light-ships at Simmons's reef, Gray's reef and White shoals are assured for next season, and there is reason to also expect two similar ships to mark the two outer shoals on Eleven Foot shoal, Green bay. The appropriations for permanent light-houses, which it is proposed to use in the construction and equipment of these light-ships, on account of the funds being insufficient for the permanent structures, are $60,000 each for Simmons' reef and Eleven Foot shoal and not $102,500 for the latter as stated a week ago. The lighthouse board has indorsed the plan of applying the $60,000 appropriated for Simmons' reef to the construction of light-ships but whether that body can be induced to take like action regarding the Eleven Foot shoal appropriation and the general plan of providing lightships instead of costly permanent structures at other points on the lakes is a question. At the last meeting of the Excelsior Marine Benevolent Association, the Cleveland organization of lake vessel masters, Capt. George P. McKay and Capt. James Stone presented a series of resolutions indorsing Congressman Burton's bill for the Simmons' reef light-ships and urging that similar action be taken regarding the marking of the two outer shoals on Eleven Foot shoal, leaving for the present the permanent light on the shore point. With these shoals marked by lightships and Waugoschance in full sight or sound, the western approach to the straits will be well marked. These two measures will not call for the appropriation of any additional sum of money at this time and it is the general opinion here that Representative Burton should include a provision for lightships to come from the Eleven Foot shoal appropriation in his bill providing for the change to lightships at Simmons' reef. In this matter, as well as other government works on Lake Michigan, the vessel-owners and masters have found reason to place a great deal of confidence in the recommendations of Col. Ludlow, of the corps of engineers, U. S. A.

One light station or light-ship regarding an appropriation for the construction of which there should be no furtner delay is that of Bar point, in the Detroit river, about midway between the Detroit river light station and Bois Blanc island. The necessity of this light, in a channel where the tonnage each year for three years past has averaged about 36,000,000 tons, has been proven by the vessel owners of the lakes who have paid for the maintenance of a light there for two years past, after staking out a channel. The light-house board has denounced private lights, and should favor a government light where some light must be had. It has been claimed that this light is in Canadian water, or on the border line, but this should not be a bar to the establishment of a light in such an important locality. Let the officers of the board fix the locality of the light, and, if a slight change must be made in position, it can in all probability be done without danger to navigation.

Work of the Ship Yards.

The sub-marine boat which the Detroit Boat Works is building for Chicago parties will be ready for launching early in the spring. The vessel is 40 feet long, 9 feet beam and 14 feet deep, and is built of oak knees 4 inches thick bolted together so as to form a cylinder of oak. The motive power, derived from storage batteries, will be applied to a wheel at the stern and two other wheels on the sides. By turning a switch the boat can be made to rise or sink, and will come to the surface through its own buoyancy, like a dead fish, the minute the machinery stops. The government will be asked to inspect it with a view to applying some of its peculiar features to torpedo boats.

The hull for a handsome steel passenger steamer will be launched at Toledo about January 10, from the yard of the Craig Ship Building Co. The steamer will be named the City of Toledo, and will be ready for the Toledo and island passenger business about June 1. The hull is divided by six water-tight bulkheads, and the builders claim that thirty feet of her bow could be carried away without sinking the steamer. The engines will be enclined triple expansion, built by the Cleveland Ship Building Co. Her dimensions are 210 feet long, 221 feet over all, 32 feet beam and 59 feet over the guards. On the promenade deck there will be twelve staterooms and on the hurricane deck there will be an observation room. Considerable has been said of the speed to be developed. This is particularly interesting on account of the presence of a new twenty mile boat in the waters that the Toledo will run in. The new steamer will make two daily trips on time that will permit business men to live at the islands during the summer.

Death of Capt. Edmund M. Becker.

Capt. Edmund M. Becker, of the vessel brokerage firm of Warner & Becker, met death under very sad circumstances last week. On Christmas eve he attempted to board an electric motor car while on his way to one of the hospitals to visit a sick friend. The platform was crowded, and he was forced under the car. One of his legs was crushed, and he was otherwise severely injured. He was taken to Lakeside hospital, where he died Monday morning, although he was conscious during all of the four days that had elapsed since the accident.

Capt. Becker was born in Painesville, and was 44 years of age. He was one of the best known men in connection with lake business in Cleveland, and had a very wide circle of friends. His father, Capt. David Becker, who survives him, quit sailing only a year ago, and is among the oldest mariners. Capt. Edmund Becker had filled every position in the sailor's calling, and was in charge of the City of Fremont, one of the Lake Superior line boats, when he quit sailing to form a partnership with Capt. George Warner, thirteen years ago. He was a Mason of high standing, and a member of Bigelow lodge, Thatcher chapter, Holyrood commandery. He leaves a wife and one daughter, eight years of age. The funeral occurred Wednesday.

Judge Brown's Successor.

The nomination of Judge Henry B. Brown, of Detroit, to be a justice of the United States Supreme Court, to fill the vacancy occasioned by the death of the late Justice Miller, has been received with commendation and praise by the vessel owners and masters of the lakes who have been brought in contact with him during his long and honorable career as district judge. The appointment of his successor in the Michigan district is a matter of the utmost importance to lake interests. Judge Brown during his long term of office probably heard and decided more admiralty cases than any other district judge in this country, and, as it is necessary to have a judge at Detroit specially fitted for this line of cases, the navigation interests should have a voice in the selection. Mr. Henry H. Swan, who has had years of experience in admiralty, and whose knowledge of maritime matters is thoroughly recognized by vessel owners over the entire chain of lakes, is mentiond to succeed Judge Brown. There is no question of Mr. Swan's fitness for the position, and the lake interests will be served if he receives the appointment.

E. M. B. A.

THE COMING CONVENTION.

The coming convention for the formation of a grand lodge, to be held in Buffalo on the 6th inst., is absorbing attention among the different lodges. The representation at this first meeting will be two delegates for each twenty-five members. This will give Buffalo about sixteen delegates, Cleveland ten and an equally large representation from Port Huron and other places where membership has shown a steady increase. Some of the Cleveland members are inclined to think that the work of organization can not be as well attended to with such a large body and they are decidedly against so large a representation in the supreme lodge when it is organized. The Cleveland masters have invited the Cleveland Vessel Owners' Association to use their rooms for meeting purposes, the vessel owners having no regular place of meeting. At last Friday's meeting the captain's indorsed the petition asking the government to maintain a light at Bar point. Captains Thomas Beniteau and John Coulter were admitted to membership in the lodge and applications for membership were received from Captains Joseph Doville and Charles L. Hutchinson.

The Iron Trade Review, in its last issue, departed from the usual style of the trade paper and appeared in eighty pages with a lithographed cover, which was a work of art. The issue appealed not alone to æsthetic sense but contained some valuable figures apertaining to ore handled and ore on dock at Lake Erie ports. This special edition was printed in their new bnilding on Vincent street, where the Cleveland Printing and Publishing Company have moved their extensive plant.

From Steel to Aluminum.

In all probability the day of steel is almost over. Aluminum will soon take its place. A metal as little liable to tarnish in air or water, as little or less affected by acids than gold, twice as strong as steel and one-third the weight, as malleable and as ductile as gold, aluminum offers advantages to the shipbuilder, to the machinist and to all engaged in the mechanic arts in which any metal is employed, that cannot be ignored, and the only thing that stands in the way of its substitution for steel and iron, and perhaps for copper, tin, lead and every other metal except zinc, which has uses peculiar to itself, is the cost of production from the ore. Aluminum is the most abundent of all metals contained in the earth's crust, being a constitutent of all clays. Its cost now is 60 cents a pound. When it falls to 10 cents it will be much cheaper than steel at 5 cents. Earnest scientific minds in the works of the Cowles Electric Smelting and Aluminum Company and other big concerns, are occupied from day to day in experimental processes of its reduction from ore. Any day the process by which this can be accomplished may be discovered, and the price drop to a few cents a pound. The vessels of war and peace will be constructed of it that will be stronger than steel ships and lighter than those of wood. The navigable waters of the globe will be increased very largely—some say two-thirds—by the lighter draft of the vessels, and the speed produced by engines of the same horse-power as are now used in iron and steel steamers will be very much greater. The engines themselves may be made of aluminum, and being much stronger, as well as lighter, would give a power which no engine of the day can reach.—Brooklyn Citizen.

The builder of the passenger steamer, Howard Cassard, launched at Baltimore recently, thinks she will make 35 miles an hour. She is 222 feet over all, 206 feet between perpendiculars, 18 feet beam and 18.4 depth. At her midship she is semi-circular with a radius of 8 feet. The engine is compound 30x60 with 24-inch stroke with 1,600 horse-power. The screw is four bladed, 9 feet 8 inches with 15½ feet lead. Displacement at load water line is 380 tons.

Affairs in Admiralty.

FULL TEXT OF THE NORTH STAR–SHEFFIELD DECISION.

Judge Brown's decision in the famous North Star–Sheffield collision case has just appeared in full in the Federal Court Reporter. In the syllabus prepared by the court the point made is that when two steamers are approaching each other, in a fog, and repeated signals from each of them indicate that they are drawing together upon opposite or crossing courses, it is the duty of each to stop until they come to a clear understanding with regard to their respective positions,and course,and if there be any confusion of signals, or any other apparent risk of collision,it is their duty not only to stop but to reverse their engines. In stating the case the court says: The suit is for collision between the steamships Sheffield and North Star, which occurred about 5 o'clock in the afternoon of June 14, 1889, during a dense fog, to the northward and westward of Whitefish point, Lake Superior, resulting in the sinking and total loss of the Sheffield. The libel of the Sheffield averred that while upon a trip from Chicago to Two Harbors, and after passing Whitefish point, and being put upon a W. N. W. course, she encountered a fog which gradually became denser and steadier. While upon this course, with a smooth sea and light wind, and with her fog signals regularly blowing, she heard the distant sounds of a steamer's whistle, nearly ahead. Her engines were at once checked, when the signal was heard again a little upon her starboard bow. She was again checked, and a signal of two blasts blown, to which no answer was received. The signal was repeated and the Sheffield starboarded half a point. The approaching steamer, which proved to be the North Star, replied with one blast, still a long distance away. To make certain whether this was blown as a fog signal or a passing signal, the Sheffield blew a signal of two blasts two or three times, to each of which the Star answered with a signal of one blast. Thereupon the Sheffield, acquiescing in the demand of the Star to pass port to port, blew one blast and ported. The vessels were then from one and one-half to two miles apart, the Star bearing less than a point upon the Sheffield's starboard bow. The Sheffield was steadied under her port-wheel N. W. by N. This threw the Star upon the port bow of the Sheffield. The steamers approached, exchanging signals of one blast, until the Star was apparently well off upon the port side of the Sheffield, and all risk of collision seemed to be passed. While in this situation a signal of two blasts was heard from the Star, apparently four points oft the Sheffield's bow, the vessels being now too close to change sides by starboarding. The Sheffield answered with one blast, and ported hard. Again the Star blew two blasts, which were answered again by one, and the Star appeared through the fog heading for the Sheffield, two lengths or more distant, on the port side and coming at great speed. The master of the Sheffield at once signaled to the engine for full speed, and ordered the wheel amidships, but two late to be of service. The North Star struck the Sheffield at about right angles, and near her port mizzen rigging, cutting into her six or eight feet and sinking her within five minutes.

The answer averred that the North Star, being on a voyage from West Superior to Buffalo, upon a course S. E. by E. half E., and running under check, heard a signal of two blasts of a steam whistle about three-quarters of a point over her starboard bow. Knowing this to be a passing signal of a steamer bound up the lake, it was promptly answered by two blasts from the North Star. In less than a minute afterwards, a second signal of two blasts was heard, still upon the starboard bow, which was again answered by a similar signal from the Star. This was again repeated. After the last signal was given and answered, the approaching steamer, which proved to be the Sheffield, suddenly blew a signal of one blast, still off the Star's starboard bow as soon as this was blown, danger of collision was apprehended, and the Star promptly answered this signal by adhering to her own signal of two blasts, and her speed was still further checked down. Again the Sheffield blew a signal of one blast, still upon the starboard bow but closer. The engine of the Star was then immediately stopped, and, while this order was being obeyed the Sheffield hove in sight near to, and heading across the bow of the Star from starboard to port. The collision occurred practically as stated in the libel."

The court said; "We are entirely agreed in our opinion of this case. I was prepared to decide the case upon the pleadings, but out of deference to counsel and the probability of appeal, I deemed it my duty to listen to the testimony. I may say that in a practice of nearly thirty years in collision suits, I can hardly recall a case where the negligence seemed so gross an inexcusable, and none where the consequences were so disastrous. Indeed, judging from the frequent collisions which take place in thick weather, the hardest lesson which the masters of steam vessels can learn seems to be the proper method of passing each other in a fog. As was remarked by Mr. Justice Butt in one of the last collision cases reported 'Masters can always carry out the maneuvers in that way (that is by stopping) and I will not yield to what I know is the strong disinclination of the masters of these large vessels to stop their engines They hate and abhor the very idea, but it is to my mind their duty to do so, if they can not otherwise reduce their speed sufficiently.' There is no relaxation of the rule demanding extraordinary care in cases of vessels approaching each other in a fog. I think it is the duty of a vessel hearing the signal of a steamship ahead in a fog (and by ahead I do not mean dead ahead necessarily, but within one or two points upon either bow) to reduce her speed; and if she hears a second or third whistle nearer in the same direction it is her duty to stop and wait until signals have passed between the two vessels which shall determine upon which side each shall go, and that both vessels should proceed at the most moderate speed, keeping themselves well in command, until they bring themselves off each others bow' to such a distance as to make it absolutely certain that by continuing under such check they will pass each other in safety. I do not think they have any right to resume their full speed until they are directly or nearly abeam. I have tried too many collision cases to attempt to reconcile the testimony of the crews of different vessels where it is so conflicting as it is in this case. We shall take the salient and uncontradicted facts as they are sworn to by each side. The Sheffield was proceeding up the lake, bound from White Fish point to Keweenaw point on a course W. N. W. She was blowing her usual fog signals, her whistle being operated by an automatic device, which blew a fog signal once in fifty-eight seconds. While upon this course, checked to half speed, she heard very faintly, at a great apparent distance, and a little upon her starboard bow, a single blast from the Star, in answer to which she blew two blasts and checked. She received no answer. Her

master then came on deck, and, hearing whistles on her starboard bow, he blew two blasts and starboarded half a point. The other vessel answered by a single blast. Now, whether that was intended as a fog signal or as a passsing signal is uncertain, but at any rate it was a circumstance which called for immediate caution. He blew two blasts again, and that was answered by one, and the signal was then repeated with the same response. There was evidently a confusion of signals, and, as those vessels were getting nearer, he should have stopped until he located the signals and the course of the approaching vessel. Instead of that he assumed that the North Star was blowing passing signals, though he had no assurance that they were not fog signals. Instead of stopping, however, he ported. In the first place he ported upon the assumption that the Star was blowing a passing signal instead of a fog signal, which may have been untrue It is quite evident that, if it had been a passing signal, the sound would have crossed from his starboard to his port bow, or at least it would have closed in; but there is no testimony to indicate that. He swears that the whistles continued upon his starboard bow until after he ported. The very fact that the signal did not close in or pass from his starboard to his port bow should have indicated to him that the Star had not changed her course, but was blowing a fog signal, and that his porting would ultimately throw him directly across the bow of the Star. That was his second fault. The third fault was in not stopping. He should have stopped, because he was laying out a new departure. He was acquiescing in the signals of the North Star, if her single blasts were intended as port signals, and was throwing himself across her bow in case she should keep her course, as the indications were she was doing. Now he says that he exchanged six or eight signals of one blast with the North Star. I doubt this, but assume it to be true, he exchanged six or eight signals of one blast, and then, very much to his surprise, as he says, after he had gotten the North Star away over on his port bow, the Star blew two blasts, which he answered by one, and ported hard. He did not stop then, and the signal was repeated. He should not only have stopped, but he should have stopped and reversed and backed strong. But after the second signal of two whistles, to which he answered with one, the vessels came in sight of each other. Anything that offered a possible escape was in order then.

"The North Star's course is certainly open to much less criticism than that of the Sheffield. Let us assume from the testimony that she was running under a check of five miles an hour. She claims she did not hear the fog signal from the Sheffield, but we do not believe that. We think she must have heard the signal blast of the Sheffield, because the mate says that he heard it, and because the protest indicates that he heard it. We have no indication that the Star moderated her speed up to that time. In fact it was about that time that the master sent the mate to the engineer to tell him to hurry up a little—to put on a little more steam—while signals of two blasts were being blown at a distance not exceeding a mile. We are inclined to think that the first signal came from the Star, and this because the Sheffield was under a port wheel at that time. Indeed, it seems to us incredible that a steamer should be blowing a signal of two blasts while under a port-wheel. As to what took place at that time we refer to the allegations of the North Star's answer, although it is qualified to some extent by the oral testimony. Now it is manifest that at the time this signal of two blasts was heard on the North Star, the signals of the two steamers were conflicting, and the circumstances all indicate that they could not have been more than a mile apart. It was the instant duty of the North Star to stop and back. It is claimed that she did this, but it is also uncontradicted that she checked. Her duty was to stop, and her counsel have recognized this by saying that a cluster of signals to check, to stop, to back, and to back strong were all given substantially at once, and as one order. In view of the allegation of the answer, we cannot believe that. The protest does not indicate it. My own view is that the first order given was to check; that they waited until they got another blast from the Sheffield, and then they stopped; that the Sheffield immediately hove in sight, when they reversed their engines, but too late to be of any service. The consequence was that she ran into the Sheffield four or five feet. It is said by a witness for the Star, who has made a mathematical calculation, based upon the weight of the Star and the strength of the Sheffield's hull, that her speed could not have exceeded a mile an hour. Our opinions, however, rather coincide with that of the intelligent witnesses produced by the Sheffield,—Capt. Kirby and Mr. Angstrom,—who testified that in their opinion she must have been going at from five to seven miles an hour. The experienced seamen who sit with me in this case give it as their opinion that she must have been going, considering the depth of the cut and all the facts, at a speed of about five miles an hour, and I concur in that opinion.

"We are clearly of the opinion that the Star was at fault for not taking prompter measures to stop and reverse her engine. There must be a decree dividing the damages, and referring the case to a commissioner, to compute and report the same."

In a case taken up from the circuit court, New York, the supreme court recently decided that a 'longshoreman who, while in the employ of a stevedore, and engaged in loading a vessel, is injured, partly through the vessel's ignorance and partly through his own, by falling from the bridge, is not entirely prevented by his contributory negligence from recovery upon libeling the vessel, but is entitled to a deeree for divided damages.

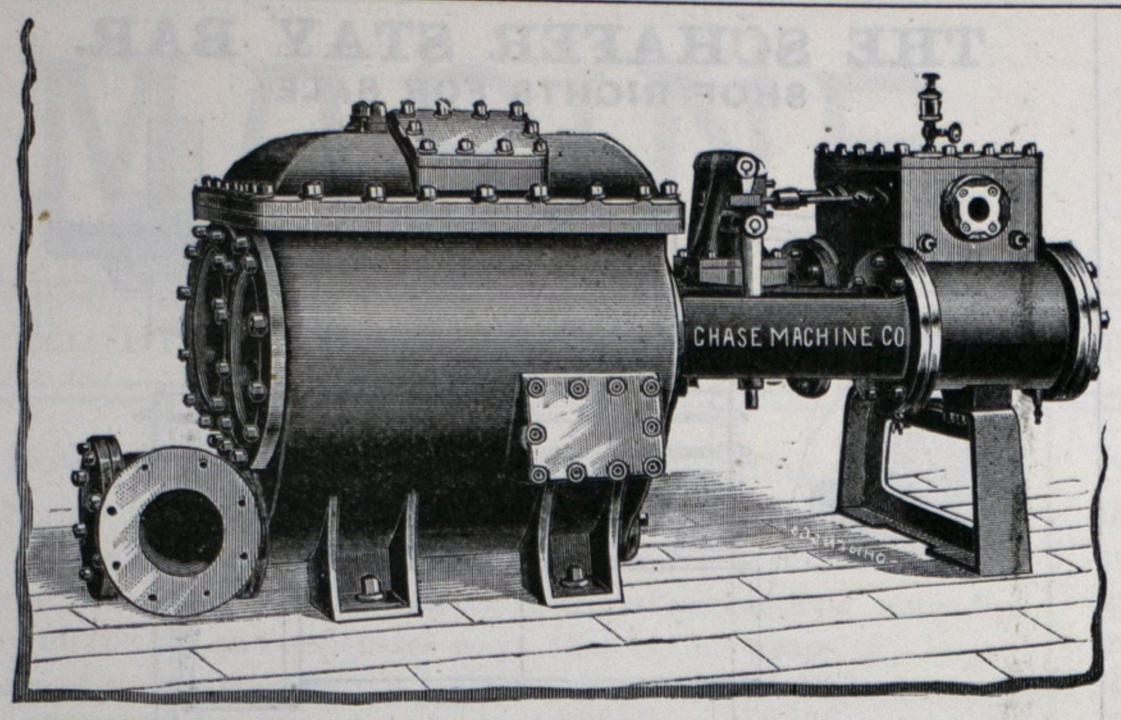
U. S. ENGINEER OFFICE, BURLINGTON, Vt., Dec. 22nd, 1890. Sealed proposals, in duplicate, addressed to the undersigned, will be received at this office until 11:30 a.m., January 13, 1891, and then publicly opened, for blasting and removing 247 cubic yards of rock, more or less, from two shoals between Sister Islands and Cross-over light, Saint Lawrence River N. Y. Attention is invited to the Acts of Congress approved February 26th, 1885, and February 23rd, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. Detailed information can be had on application. M. B. ADAMS, Major of Engineers. Jan. 1-8

DREDGING AT OGDENSBURG HARBOR, New York. U. S. Engineer Office, Burlington, Vt., December 22nd, 1890. Sealed proposals, in duplicate, addressed to the undersigned for 270,000 cubic yards, more or less, of dredging; 200,000 yards from the city front channel, and 70,000 yards from the channel near the C.V. R. R. elevators, Ogdensburg Harbor, will be received at this office until 11:30 o'clock a.m., January 22nd, 1891. Attention is invited to the Acts of Congress approved February 26th, 1885, and February 23rd, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large. Detailnd information can be had on application. M.B.ADAMS, Major of Engineers. Jan. 1-8-21

UNITED STATES ENGINEER OFFICE, 34 West Congress street, Detroit, Mich., December 20, 1890. To whom it may concern: Whereas, The navigation of the rapids of the St. Clair River, opposite Fort Gratiot, Mich., is obstructed and endangered by the wrecks of the schooners "M. E. Tremble" and "Ben Hur," Notice is hereby given to all persons interested in said vessels, their cargoes, and all other property therein, that if, within thirty (30) days from the date of this advertisement, they shall not have signified to me their intention and taken preliminary steps to remove said wrecks, etc., as soon as practicable, the same will be considered abandoned and derelict, and will be removed by the United States under authority of law. Sealed proposals, in triplicate, for the removal of said wrecks, etc., will be received at this office until 2 o'clock p.m., January 19, 1891, and then opened. Preference will be given to plant of domestic production or manufacture, conditions of quality and price (import duties included) being equal. Attention is invited to Acts of Congress, approved February 26, 1885, and February 23, 1887, vol. 23, page 332, and vol. 24, page 414, Statutes at Large. The government reserves the right to reject any or all proposals, and to waive any informalities. For further information, apply at this office. By authority of the Secretary of War. O. M. POE, Cononel of Engineers, Bvt. Brig. General, U. S. A. J-15

UNITED STATES ENGINEER OFFICE, 34 West Congress Street, Detroit, Mich., November 28, 1890. Sealed proposals, in triplicate, for furnishing all materials and labor and building the masonry of a lock at St. Mary's Falls Canal, Michigan, will be received at this office until 2 o'clock p.m., January 27, 1891, and then publicly opened. Preference will be given to materials of domestic production or manufacture, conditions of quality and price (import duties included), being equal. Attention is invited to Acts of Congress, approved February 26, 1885, and February 23, 1887, vol. 23, page 332, and vol. 24, page 414, statutes at large. The government reserves the right to reject any or all proposals; also to award the contra t upon other considerations than the price. For further information apply at this office, or to the U. S. Engineer Office, Sault Ste. Marie, Mich. O. M. POE, Colonei, Corps of Engineers, Bvt. Brig.-Gen. U. S. A. J-22

UNITED STATES ENGINEER OFFICE, 34 West Congress street, Detroit, Mich., December 27, 1890. Sealed proposals, in triplicate, for furnishing all materials, plant, and labor, and excavating Hay Lake Channel, St. Mary's River, Mich., will be received at this office until 2 o'clock p. m., January 26, 1891, and then publicly opened: Preference will be given to plant and materials of domestic production or manufacture, conditions of quality and price (import duties included) being equal. Attention is invited to Acts of Congress, approved February 26, 1885, and February 23, 1887, vol. 23, page 332, and vol. 24, page 414, Statutes at Large. The government reserves the right to reject any or all proposals, and to waive any informalities in the bids received. For further information apply at this office, or at the United States Engineer Office, Sault Ste Marie, Mich. O. M. POE, Colonel Corps of Engineers, Bvt. Brigadier-General, U. S. A. J-22



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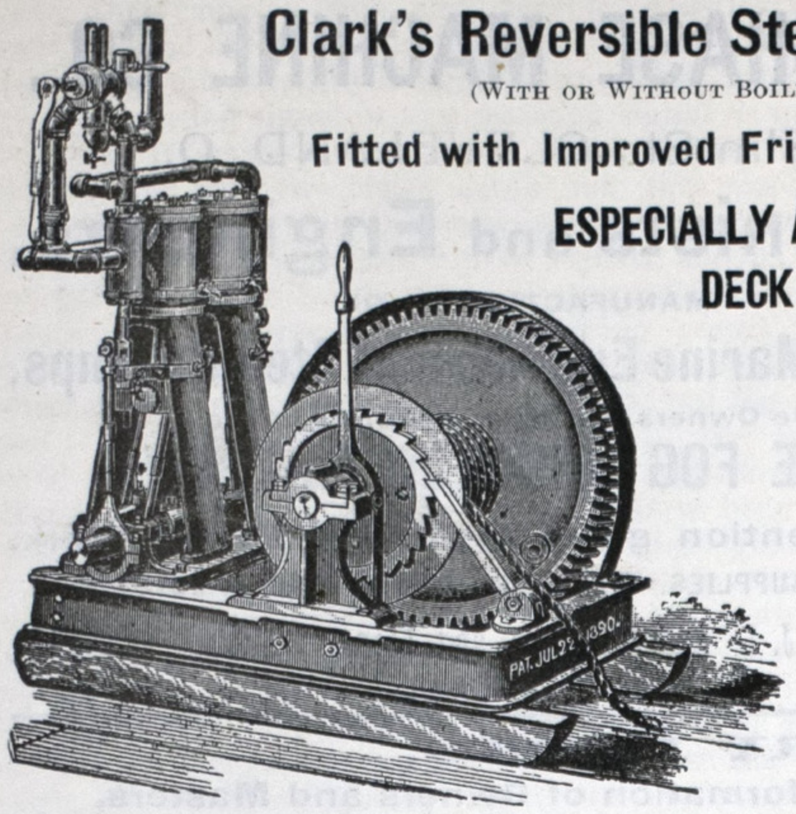

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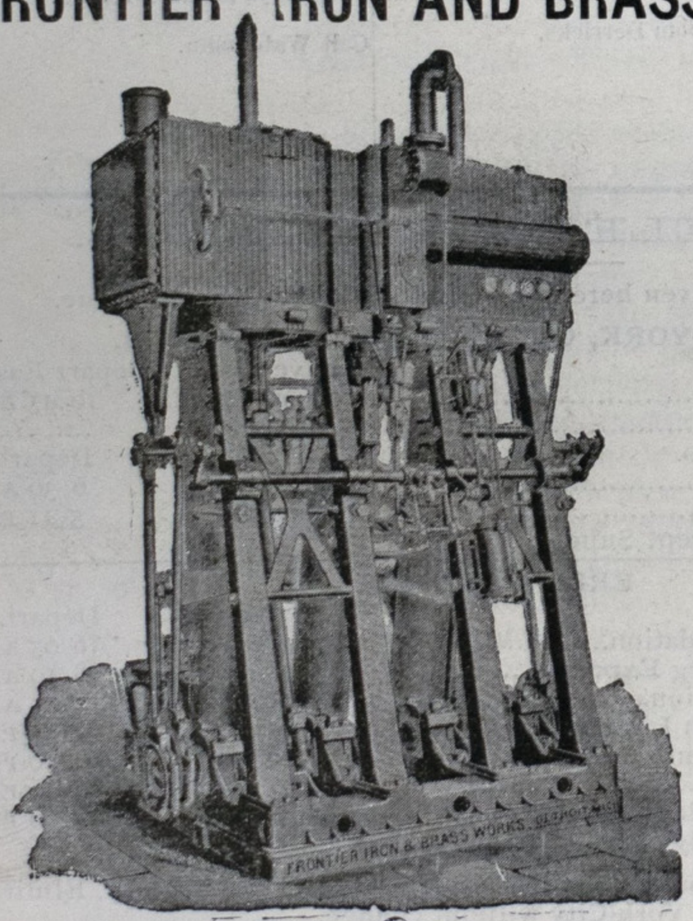

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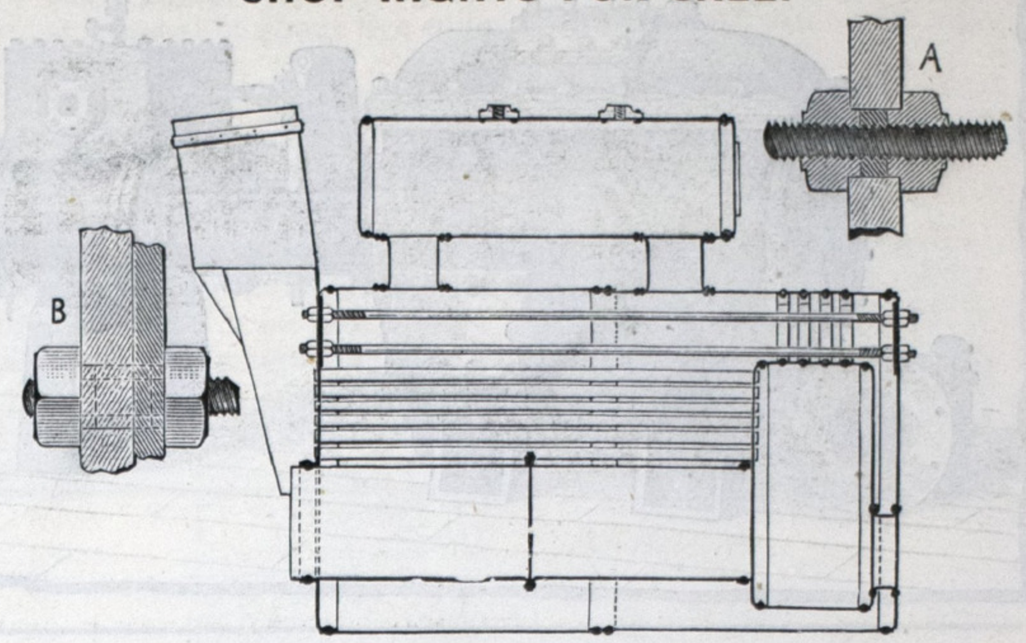

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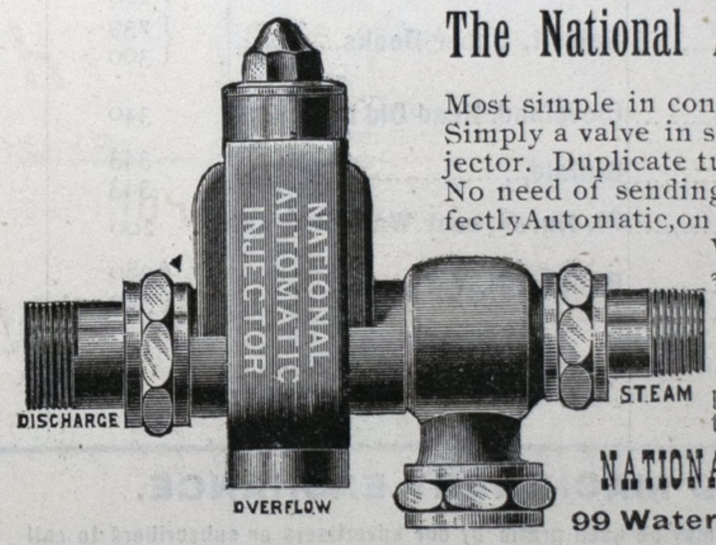

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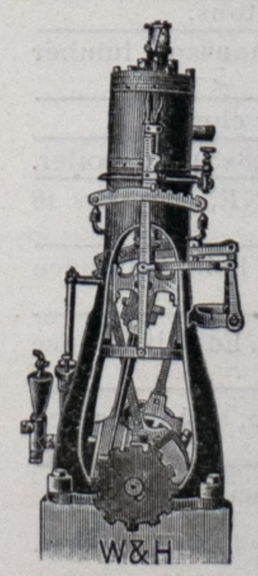

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